

At page 19, line 24, please delete "NOS: 6-10" and substitute --NOS: 2, 4, 6, 8 and 10-- therefore.

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At page 25, line 15, please insert the following -- For clarification and reference herein, the term OB-R, when applied to the published and unaltered leptin receptor polypeptide, refers to that disclosed in Tartaglia et al. [Cell 83, (1263-1271 (1995))], which is incorporated herein by reference in its entirety. The amino acid sequence of the Tartaglia et al. published and unaltered mouse OB-R is set forth in SEQ ID NO: 55. The amino acid and nucleic acid sequence of the Tartaglia et al. published and unaltered human OB-R is set forth in SEQ ID NO: 56.

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At page 26, line 21, please delete "where it diverges" and substitute -- with a different nine amino acid sequence C-terminal to His ⁷⁹⁶ -- therefore.

IN THE CLAIMS:

Please cancel Claims 20 and 23.

Please amend the claims as follows:

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21. (Amended) An isolated nucleic acid encoding a leptin receptor [of claim 5, 6, or 7.] polypeptide which is selected from the group consisting of OB-Ra, OB-Rb, OB-Rc, OB-Rd, and OB-Re, or allelic variants thereof.

22. (Amended) An isolated nucleic acid encoding a leptin receptor polypeptide which is a soluble receptor [of claim 8 or 9].

24. (Amended) An isolated DNA molecule encoding on expression a leptin receptor polypeptide selected from the group consisting of:

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- [a polypeptide coding sequence of] a DNA molecule of SEQ ID NO:1, 3, 5, 7, or 9;
 - a DNA molecule complementary to the DNA molecule defined in (a);
 - a DNA molecule which hybridizes to the DNA molecule of (a) or (b), or

a hybridizable fragment thereof;

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- d. a DNA molecule which is amplifiable [identifiable] with a polymerase chain reaction (PCR) probe selected from group consisting of a probe for clone 7 (forward primer SEQ ID NO:42 and reverse primer SEQ ID NO:43), a probe for clone 11 (forward primer SEQ ID NO:44 and reverse primer SEQ ID NO:45), and both clone 7 and clone 11; and

- d. a DNA molecule that codes on expression for the polypeptide encoded by any of the foregoing DNA molecules.

27. (Amended) The DNA molecule of claim 24 which codes on expression for a polypeptide selected from the group consisting of:

- a) a leptin receptor selected from the group consisting of OB-Ra, OB-Rb, OB-Rc, OB-Rd, and OB-Re, or allelic variants thereof;

- b) a leptin receptor selected from the group consisting of:

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- i. N-terminal corresponding to OB-Ra through Lys⁸⁸⁹ and C-terminal corresponding to a C-terminal selected from the group consisting of OB-Rb, OB-Rc, and OB-Rd after Lys⁸⁸⁹;
 - ii. N-terminal corresponding to OB-Rb or OB-Rc through Lys⁸⁸⁹, and C-terminal corresponding to OB-Ra or OB-Rd after Lys⁸⁸⁹;
 - iii. N-terminal corresponding to OB-Rd through Lys⁸⁸⁹, and C-terminal corresponding to OB-Ra, OB-Rb, or OB-Rc after Lys⁸⁸⁹;
 - iv. N-terminal corresponding to SEQ ID NO:55 [OB-R] from Pro⁶⁶⁴ to Lys⁸⁸⁹, and C-terminal corresponding to OB-Ra, OB-Rb, OB-Rc, or [and] OB-Rd after Lys⁸⁸⁹;
 - v. N-terminal corresponding to SEQ ID NO:55 [OB-R] from Met⁷³³ to Lys⁸⁸⁹, and C-terminal corresponding to OB-Ra, OB-Rb, OB-Rc, or [and] OB-Rd after Lys⁸⁸⁹;
 - vi. N-terminal selected from the group consisting of OB-Ra, OB-Rb, OB-Rd, and SEQ ID NO:55 [OB-R] from Pro⁶⁶⁴ [,] through His⁷⁹⁶, and

OB-Re from His⁷⁹⁶; [, and]

vii. N-terminal corresponding to SEQ ID NO:55 [OB-R] from Met⁷³³ to His⁷⁹⁶, and OB-Re from His⁷⁹⁶, and

viii) allelic variants of any of subparts i) through vii) above;

[or allelic variants thereof;]

c) a leptin receptor wherein

viii. the N-terminal sequence is selected from the group consisting of

- (1) amino acid residues 1-889;
- (2) amino acid residues 23-889;
- (3) amino acid residues 28-889;
- (4) amino acid residues 133-889;
- (5) amino acid residues 733-889;
- (6) amino acid residues 1-796;
- (7) amino acid residues 23-796;
- (8) amino acid residues 28-796;
- (9) amino acid residues 133-796; [and]
- (10) amino acid residues 733-796; and
- (11) allelic variants of any of subparts (1) through (10) above; and

ix. the C-terminal sequence is selected from the group consisting of

- (1) SEQ ID NO:11;
- (2) SEQ ID NO:12;
- (3) SEQ ID NO:13;
- (4) SEQ ID NO:14; and
- (5) SEQ ID NO:15;

wherein the numbering is based on the amino acid sequence of SEQ ID NO:55 [the full length transcribed murine leptin receptor, including the signal peptide, or allelic variants thereof].

B⁶ 34. (Amended) The nucleic acid of claim [20,] 21, 22, or ~~67-68~~ [23] which is DNA.

Please add the following claims:

B⁷ 67. The isolated nucleic acid of claim 22 wherein said soluble receptor is selected from the group consisting of

- a) OB-Re;
 - b) an N-terminal sequence which is selected from the group consisting of:
 - i) OB-Ra;
 - ii) OB-Rb;
 - iii) OB-Rd; and
 - iv) corresponding to SEQ ID NO: 55 from Pro⁶⁶⁴ through His⁷⁹⁶, and a C-terminal sequence which is OB-Re from His⁷⁹⁶; and
 - c) an N-terminal sequence which is selected from the group consisting of
 - i) amino acid residues 1-796;
 - ii) amino acid residues 23-796;
 - iii) amino acid residues 28-796;
 - iv) amino acid residues 133-796;
 - v) amino acid residues 733-796; and
 - vi) allelic variants of any of subparts i) through v); and
- a C-terminal sequence which is SEQ ID NO: 15;

wherein the numbering in subparts b) and c) is based on the amino acid sequence of SEQ ID NO: 55.

68. An isolated nucleic acid encoding a leptin receptor polypeptide, which is a human leptin receptor and which comprises an amino acid substitution selected from the group consisting of: Phe for Ser³⁶; Asp for Tyr⁴⁴; Ser for Leu⁴⁹; Pro for Ser⁵⁴; Leu for Ser⁶⁰; Ala for His⁶³; Ala for Thr⁶⁶; Ala for Pro⁷⁰; Ile for Thr⁷⁷; Tyr for His⁷⁸; Pro for Ser⁸⁰; Gly for Arg⁹²;